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**F O R E W O R D**

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It is a pleasure introduce this work on knee arthroplasty. Few fields in orthopaedics have evolved so considerably over the last years as our knowledge and understanding in knee kinematics and knee arthroplasty surgery. In recent decades, an unstoppable evolution in search of better results has taken place in this surgery. We have seen grow and develop the computer assisted surgery, the robotic surgery, the patient matched instrumentation. Unfortunately, the failures are still present and the need for reoperation should be considered including all aspects of this technically challenging surgery. So I choose some particular aspects of this reconstructive surgery like the kinematics of the normal knee and the replaced one, the innovations in term of navigation, the customized surgical tools, the robotic-arm assisted surgery. The second part of this monograph is dedicated to failures addressing

the topics of the infections, the periprosthetic fractures, the metal hypersensitivity, the bone loss management in revision surgery and the revision implants. The last papers are dedicated to the megaprosthesis in bone tumours and to pain management in knee arthroplasty.

This number attempts to assemble all these evolutions and new insights into a monograph, in attempts to provide a comprehensive update on the most modern view on knee arthroplasty.

I feel fortunate to have received the support of many well-known surgeons and I am grateful to all Authors for their excellent contributions to this number of Acta Biomedica Atenei Parmensis, and I hope that this work may be helpful as a basis for achieving better understanding and better results in this kind of surgery.

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